

# FT-TSC600

## FlipTop™ Touch Screen Control System

- > Flush mount tabletop control and connectivity in one stylish FlipTop™ design
- > Built-in 3-Series® control processor
- > Onboard 10/100 Ethernet and Cresnet® master ports [3]
- > Control port expansion via C2N-IO modules [2]
- > Integrated 5" capacitive color touch screen with Smart Graphics™ support [6]
- > High-performance H.264 streaming video over Ethernet
- > Seamless integration with Crestron® DigitalMedia™
- > 5 soft-touch capacitive buttons for common functions
- > Hands-free audio conferencing using Rava® SIP Intercom Technology [1]
- > Customizable audio feedback
- > Built-in microphone and speaker
- > Balanced line output for amplification of the speaker signal
- > PoE+ network powered
- > Configurable connection compartment allows versatile combinations of pullout cables, cable retractors, connector plates, and AC power outlets [2]
- > Tapered cable notch allows lid to be closed with cables plugged in
- > Lacing bar for under table cable management
- > Universal cutout size fits all new and future FlipTops™
- > Black anodized or brushed aluminum finish

The FT-TSC600 FlipTop™ Touch Screen Control System by Crestron® provides a configurable control and connectivity solution in a stylish, flush mount tabletop design. Its built-in 3-Series® control processor and brilliant 5" color touch screen combine to deliver a complete, space-saving controller for any small conference room or similar space. The built-in connection compartment keeps interface cables and connectors at the ready for plugging in laptop computers, mobile devices, AV sources, and other equipment.

A FlipTop Touch Screen Control System is an ideal complement to a DigitalMedia™ system or any other AV system. It provides an intuitive and inviting "front end" for the more complex and mundane technology beneath the tabletop and throughout the room. The integrated touch screen and control processor can provide total control for an entire room, offering a fully-customizable user interface for selecting presentation sources, adjusting audio levels, dimming the lights, and even calling for lunch service. Advanced capabilities include displaying full-motion video and hands-free audio conferencing<sup>[1]</sup>.

### No Equipment Rack Required!

The FT-TSC600 encapsulates the industry's best control technologies in a single space-saving design that can alleviate the need for a separate equipment rack. Onboard Ethernet and Cresnet® ports provide the essential connectivity for integrating a roomful of equipment and connecting to the building network. Expanded connectivity is available using C2N-IO Control Port Expansion Modules, wireless gateways, and other Crestron interface products.<sup>[2,3]</sup>



Shown in Brushed Aluminum Finish  
with Optional Cable Retractors,  
Power Outlet Module, and  
Connector Plates

### FlipTop Design

Handsome finished in a choice of black anodized or brushed aluminum, Crestron FlipTops™ lend a contemporary metallic accent to conference tables and podiums. The FT-TSC600 installs cleanly in virtually any flat, horizontal surface up to 1-3/4 inch (44 mm) thick. Beveled edges provide for a nearly flush appearance.

The FlipTop lid flips open with just the tip of a finger to access the touch screen and connection compartment. Once connections and touch screen settings are made, the lid can be closed. A generous, tapered notch at the front of the lid opening allows interface cables to remain connected even when the lid is closed.

### Connection Compartment

The FT-TSC600 is highly configurable to provide a well-organized connectivity solution tailored to each unique application. It provides options for both pullout cables and panel-mounted connectors, with or without AC power outlets. It comes standard with two cable pass-through plates and four blank plates, all of which can be swapped out for your choice of cable retractors, connector plates, and AC power outlet modules.

- **Cable Pass-Through Plates** – Each cable pass-through plate provides four grommeted holes to accommodate **Crestron Certified Interface Cables**<sup>[2]</sup> and other AV, data, and communication cables. The user end of each cable stows neatly within the connection compartment ready for use while excess cable simply drops out-of-sight below the cable

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pass-through plate. The grommets provide a smooth, slippery surface for easy pullout of each cable. Blank caps are also provided to cover any unused holes. The cable pass-through plates are positioned at the left and right sides of the connection compartment. The FT-TSC600 supports one or two cable pass-through plates. Two are included.

- Cable Retractors** – For an even more refined cable management solution, the FT-TSC600 accommodates up to six Crestron [CBLR2](#) Cable Retractors<sup>[2]</sup>. Crestron cable retractors feature a patented mechanism that ensures smooth operation while eliminating hanging cable loops beneath the table. Up to three cable retractors can be installed in place of each cable pass-through plate, allowing for a total of six cable retractors.
- Connector Plates** – If panel-mounted connectors are preferred, the FT-TSC600 can accommodate up to four [FTA-CP](#) Connector Plates<sup>[2]</sup>. Connector plates are offered with a variety of common AV and data connector types. Custom connector plates may also be fabricated by the installer using the blank plates provided. All four connector plates are positioned at the center of the connection compartment.
- AC Power Outlet Modules** – To provide power for laptops and other portable devices, the FT-TSC600 can be equipped with up to four 120 Volt AC (NEMA 5) outlets, or up to two international AC outlets, using your choice of [FTA-PWR](#) series AC Power Outlet Modules<sup>[2]</sup>. Each FTA-PWR module occupies either two or three connector plate spaces. Modules containing two international outlets additionally require one adjacent cable pass-through plate space.

## Integrated 5" Touch Screen

Flipping open the “FlipTop” lid exposes a large 5 inch capacitive touch screen display, gracefully angled for easy operation and viewing. Smart Graphics™ technology provides a stunning custom user interface with fluid gesture-driven controls, animated feedback, metadata, embedded apps, and high-performance H.264 video. Five soft-touch capacitive buttons are also provided for quick access to commonly used functions.

## Streaming Video

High-performance streaming video capability makes it possible to preview a video source during a presentation or see a live camera image while video conferencing — right on the FlipTop touch screen! Support for H.264 and MJPEG formats allows the FT-TSC600 to display streaming video from an IP camera, a streaming server (Crestron [CEN-NVS200](#)<sup>[2]</sup> or similar), or a DigitalMedia switcher. Video is delivered to the touch screen over Ethernet, eliminating the need for any extra video wiring.

## Hands-Free Audio Conferencing

Using [Rava](#)® SIP Intercom Technology, the FT-TSC600 enables hands-free VoIP communication between any two Rava-enabled Crestron touch screens. Rava works over Ethernet, supporting audio conferencing<sup>[1]</sup>, intercom, video intercom<sup>[4]</sup>, and paging without any special wiring. VoIP phone capability is also possible through integration with an SIP-compatible IP phone system or SIP server, allowing hands-free telephone and teleconferencing functionality complete with speed-dialing, caller ID, custom ringers, and other enhancements. Built-in echo cancellation affords full-duplex performance for clear, seamless voice communication using the FT-TSC600’s integrated microphone and speaker.



**FT-TSC600-BALUM** - Shown in Brushed Aluminum Finish with Standard Cable Pass-Through Plates, Optional Power Outlet Module, and Optional Connector Plates



**FT-TSC600-B** - Shown in Black Anodized Finish with Optional Cable Retractors, UK Power Outlet Module, and Connector Plate

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## Line Output

In addition to its onboard speaker, the FT-TSC600 includes a balanced line-level audio output, allowing the speaker signal to be routed to the room's audio system. Amplifying the FlipTop's audio signal through the room speakers enhances its audio conferencing capabilities, allowing a small group of individuals to participate in a conference call using a single FT-TSC600.<sup>[1]</sup>

## 3-Series® Control Engine

The FT-TSC600 features a built-in 3-Series control processor, which can eliminate the need for a separate rack-mounted control system for many applications. Crestron 3-Series delivers a distinctively robust, dynamic, and secure control system platform capable of faithfully managing a room full of disparate technologies — from audio and video equipment to lighting, climate control, shades, drapes, and other amenities. Its Modular Programming Architecture allows the FT-TSC600 to run multiple programs simultaneously for increased efficiency and flexibility. Rock solid networking and IP control afford seamless integration with other systems and devices, with add-on control capability using Crestron touch screens, wireless remotes, and mobile devices, and remote management through **Crestron Fusion™** Enterprise Management Software.

## Cresnet®

Equipped with a Cresnet master port, the FT-TSC600 supports the full line of Crestron keypads, lighting controls, shades, thermostats, sensors, and other devices that don't require the higher speed of Ethernet.<sup>[3]</sup>

## Control Port Expander

Interfacing with IR, serial, and relay controlled devices is facilitated using the **C2N-IO** Control Port Expansion Module<sup>[2]</sup>. The C2N-IO is a compact device that can be mounted virtually anywhere. It connects to the FT-TSC600 via the Cresnet port, and provides one bidirectional RS-232 port, one IR/serial port, and two relay ports for integration with third-party devices. A total of two C2N-IOs can be connected directly to the FT-TSC600 without requiring an additional power supply<sup>[3]</sup>. Besides the C2N-IO, the FT-TSC600 is compatible with the complete line of Cresnet and infiNET EX® control modules, as well as 3-Series control card interfaces.

## BACnet™/IP

Native support for the BACnet/IP communication protocol provides a direct interface to third-party building management systems over Ethernet.<sup>[5]</sup>

## Power over Ethernet

Using PoE+ technology, the FT-TSC600 gets its operating power right through the LAN wiring. PoE (Power over Ethernet) eliminates the need for a local power supply or any dedicated power wiring. The FT-TSC600 supports LLDP advanced power management, requiring only 15 Watts from the PoE power budget when powered by a compatible PoE+ switch such as the Crestron **CEN-SWPOE-16**<sup>[2]</sup> (see **specifications** for more information).

## Build Yours Now

Your custom FlipTops are waiting. Simply use the Crestron FlipTops Configuration Tool to build and order yours in just minutes! The drag-and-drop user interface makes it easy to select your choice of finishes, cables, cable retractors, connector plates, and power outlets.

Visit: [www.crestron.com/fliptops/](http://www.crestron.com/fliptops/) and scroll to the bottom of the page.

## SPECIFICATIONS

### Touch Screen Display

**Display Type:** TFT active matrix color LCD

**Size:** 5 inch (127 mm) diagonal

**Aspect Ratio:** 15:9 WVGA

**Resolution:** 800 x 480 pixels

**Brightness:** 300 nits (cd/m<sup>2</sup>)

**Contrast:** 450:1

**Color Depth:** 24-bit, 16.7M colors

**Illumination:** Edgelit LED

**Viewing Angle:** ±69° horizontal, +62°/-64° vertical

**Touch Screen:** Projected capacitive

### Buttons

**Hardkeys:** (5) Projected capacitive pushbuttons, programmable, pre-labeled with icons for "Power", "Home", "Lights", "Up", and "Down"

### Memory

**DDR3 SDRAM:** 1 GB

**Flash:** 4 GB

**Maximum Project Size:** 512 MB

### Control Engine

3-Series®; real-time, preemptive multi-threaded/multitasking kernel; Transaction-Safe Extended FAT file system; supports up to 10 simultaneously running programs

### Graphics Engine

Supports Smart Graphics™<sup>[6]</sup>

### Communications

**Ethernet:** 10/100 Mbps; auto-switching; auto-negotiating; auto-discovery; full/half duplex; industry-standard TCP/IP stack; UDP/IP; CIP; DHCP; SSL; IEEE 802.1X; SNMP; BACnet™/IP<sup>[5]</sup>; IPv4 or IPv6; Active Directory authentication; IIS v.6.0 Web Server; SMTP e-mail client; installer setup via Crestron Toolbox™ or MSIE<sup>[7]</sup>; IEEE 802.3at Type 2 compliant

**Cresnet®:** Cresnet master mode

**USB:** Supports computer console

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## Video

Streaming Formats: H.264 (MPEG-4 part 10 AVC), MJPEG

## Audio

Features: Built-in microphone and speaker, Rava® SIP Intercom, line out (same signal as speaker)

Audio Feedback Formats: MP3

## Connectors – Connection Compartment

**Cable Pass-Through Plates:** Supports up to two cable pass-through plates (included). Each plate includes four grommeted holes which may be selectively covered using blank caps provided. The cable pass-through plates are positioned at the left and right sides of the connection compartment.

**Cable Retractors:** Up to three CBLR2 Cable Retractors<sup>[2]</sup> can be installed in place of each pass-through plate, allowing for a total of six cable retractors.

**Connector Plates:** Supports up to four FTA-CP Connector Plates<sup>[2]</sup>. Four blank plates are included. The connector plates are positioned at the center of the connection compartment.

**AC Power Outlet Modules:** A single FTA-PWR-102 Dual AC Power Outlet Module<sup>[2]</sup> can be installed in place of any two adjacent connector plates, or two FTA-PWR-102 modules can be installed in place of all four connector plates. A single FTA-PWR-2\*1 series International AC Power Outlet Module<sup>[2]</sup> can be installed in place of any three contiguous connector plates. A single FTA-PWR-2\*2 series Dual International AC Power Outlet Module<sup>[2]</sup> can be installed in place of any three contiguous connector plates plus the adjacent cable pass-through plate.

## Connectors – Bottom Panel

**AUD OUT:** (1) 3-pin 3.5mm detachable terminal block;

Balanced mono line-level audio output;

Output Impedance: 100 Ohms;

Maximum Output Level: 4 Vrms

**COMPUTER:** (1) USB Type B female;

USB computer console port (6 ft cable included)

**NET:** (1) 4-pin 3.5mm detachable terminal block;

Cresnet master port, connects to C2N-IO Control Port Expansion Modules and other Cresnet devices<sup>[2,3]</sup>

**LAN PoE:** (1) 8-wire RJ45, female;

10Base-T/100Base-TX Ethernet port, Power over Ethernet compliant<sup>[3]</sup>

**G:** (1) 6-32 screw, chassis ground lug

## Controls & Indicators

**MSG:** (1) Red LED, indicates processor has generated an error message

**NET:** (1) Amber LED, indicates communication with the Cresnet system

**PWR:** (1) Dual-color LED, indicates operating power supplied via PoE, turns yellow while booting and green when operating

**HW-R:** (1) Recessed miniature pushbutton for hardware reset

**SW-R:** (1) Recessed miniature pushbutton for software reset

**LAN PoE:** (2) LEDs, indicate Ethernet port status

## Power Requirements

**Power over Ethernet:** IEEE 802.3at Type 2 PoE+ Powered Device;

- 15 Watts if using an 802.3at Type 2 PSE with LLDP advanced power management;
- Class 4 (25.5W) if using an 802.3at Type 2 PSE without LLDP;
- Class 0 (12.95W) if using an 802.3af (or 802.3at Type 1) PSE (no Cresnet power available via NET port)<sup>[3]</sup>

**Available Cresnet Power:** 5 Watts (208 mA @ 24 Volts DC)<sup>[3]</sup>

**Utility Power:** Dependent upon the AC power outlet module installed; refer to the FTA-PWR spec sheet for more information<sup>[2]</sup>

## Environmental

**Temperature:** 32° to 112°F (0° to 45°C)

**Humidity:** 10% to 90% RH (non-condensing)

**Heat Dissipation:** 51 BTU/Hr

## Enclosure

**Chassis:** Metal, black

**Cover:** Aluminum, black anodized or brushed aluminum finish

**Touch Screen Bezel:** Aluminum

**Mounting:** Flush tabletop mount, 1-3/4 in (44 mm) maximum surface thickness, 6-1/4 in (159 mm) deep x 7-1/2 in (190 mm) wide cutout (template provided)

## Dimensions

**Height:** 8.59 in (218 mm);

12.34 in (314 mm) with lid open

**Width:** 7.98 in (203 mm);

9.19 in (234 mm) with mounting brackets

**Depth:** 6.77 in (172 mm);

7.88 in (200 mm) with lid open

## Weight

5.2 lb (2.4 kg)

## MODELS & ACCESSORIES

### Available Models

**FT-TSC600-B:** FlipTop™ Touch Screen Control System, Black Anodized

**FT-TSC600-BALUM:** FlipTop™ Touch Screen Control System, Brushed Aluminum

### Available Accessories

**CBL Series:** Crestron® Certified Interface Cables

**CBLR2 Series:** Cable Retractors for FlipTops™

**FTA-CBLRA-INSERT-2WIRE-102:** Cable Retractor Spacer Insert

**FTA-CP Series:** FlipTop™ Connector Plates

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**FTA-PWR:** FlipTop™ AC Power Outlet Modules

**C2N-IO:** Control Port Expansion Module

**C2N-HBLOCK:** Multi-type Cresnet Distribution Block

**CEN-SWPOE-16:** 16-Port Managed PoE Switch

**CEN-NVS200:** Network Video Streamer

**SW-VMK-WIN:** TouchPoint® Virtual Mouse & Keyboard Software for Windows®

**CRESTRON-APP:** Crestron® App

**CRESTRON-MOBILE-PRO:** Crestron Mobile Pro® Control App

**XPANEL:** Crestron Control® for Computers

**SW-MYCRESTRON:** myCrestron Dynamic DNS Service for Crestron Systems

**SW-FUSION-EM:** Fusion EM® Energy Management Software

**SW-FUSION-RV:** Fusion RV® Remote Asset Management Software

**SW-ROOMVW-ENT:** RoomView® Express - Remote Help Desk and Resource Management Software

**SW-3SERIES-BACNET-50+:** BACnet®/IP Support for 3-Series®

**CSP-LIR-USB:** IR Learner

Notes:

1. Supports audio conferencing with another Rava-enabled device over an IP network, or with any telephone device through integration with a SIP-compatible IP phone system or SIP server.
2. Item(s) sold separately.
3. To supply Cresnet power via the NET port, the FT-TSC600 must be powered using an IEEE 802.3at Type 2 PoE+ PSE (Power Sourcing Equipment). If the FT-TSC600 is powered by an 802.3af or 802.3at Type 1 PoE PSE, no load should be connected to the "24" terminal of the NET port, and an external Cresnet power supply must be used to power any attached devices that require Cresnet power.
4. H.264 compatible IP camera required.
5. License required. The FT-TSC600 supports a maximum of 250 BACnet objects when dedicated for BACnet use only. Actual capabilities are contingent upon the overall program size and complexity.
6. Supports Smart Graphics only. Not compatible with "traditional" UI projects.
7. Web-based installer setup requires the Microsoft® Internet Explorer® Web browser running on a Windows® PC.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at [www.crestron.com/salesreps](http://www.crestron.com/salesreps) or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: [patents.crestron.com](http://patents.crestron.com).

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